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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,557	01/03/2001	Earl Frederick Barrick	084377/0103	9807

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GEORGE MASON UNIVERSITY
OFFICE OF TECHNOLOGY TRANSFER, MSN 5G5
4400 UNIVERSITY DRIVE
FAIRFAX, VA 22030

EXAMINER

RAMIREZ, JOHN FERNANDO

ART UNIT	PAPER NUMBER
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3737

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/752,557	Applicant(s) BARRICK ET AL.	
	Examiner John F. Ramirez	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 2, 6, 14, 18-25 and 27-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13, 15-17, 26 and 31 is/are rejected.
- 7) ☒ Claim(s) 1, 3, 4, 8-13, 15-17 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

After a review of applicant's remarks, all necessary changes to the claims have been entered. Accordingly, claims 18 and 27 have been cancelled.

Applicant's arguments filed on October 5, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that Ferre et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Ferre et al. patent provides a method and a system to monitor and tracking the position and orientation of a medical instrument.

Claim Objections

Claims 1, 3, 4, 8-13, 15-17, and 26 are objected to because of the following informalities: The examiner of record invites applicant to clarify and to provide support from the specifications for the amended claims in question, by using the terms "non-invasive" and "external curvature data". Appropriate correction is required.

In regards to amended claim 1, the strikethrough phrase "computer readable" in the last paragraph of the claim was not previously presented in the claim in question. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3-5, 7-13, 15-17, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase “external curvature data” is considered to be new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-5, 7-13, 15-17, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vilsmeier et al. (US 6,611,700) in view of Ferre et al. (US 5,967,980). Vilsmeier et al. teaches a device for performing surgery or therapeutic interventions on a patient, comprising: a first curvature sensor configured to be placed externally on a patient (col. 1, line 66 – col. 2, line 33), the first curvature sensor providing an output readable by a computer (col. 2, lines 7-23); an attachment fixture coupled to the first

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curvature sensor (col. 2, lines 33-52), wherein the computer is configured to receive the output of the curvature sensor (col. 3, lines 54-59), a second curvature sensor providing an output to the computer, the second curvature sensor having a first end and a second end and capable of being coupled to the attachment fixture at the first end; and a tool connector coupled to the second end of the second curvature sensor (col. 3, line 60 – col. 4, line 40), a second attachment fixture capable of being positioned at a known location with respect to the first curvature sensor, wherein the second end of the second curvature sensor is coupled to the second attachment fixture and the tool connector is coupled to the second curvature sensor between the first end and the second end (col. 4, lines 37-39), a monitor for positionally displaying the tool connector with respect to the patient (col. 2, lines 34-61; col. 3, lines 54-59), an optical tracking system electronically coupled to the computer and configured to positionally track the tool connector or a tool positioned in the tool connector (see claim 15), wherein the computer uses both the second curvature sensor and the optical tracking system to positionally track the tool connector or a tool positioned in the tool connector (col. 2, lines 34-61; col. 3, lines 54-59), wherein the computer is configured to determine an attachment fixture-centered frame of reference based on the output of the curvature sensor (col. 1, lines 20-34; col. 1, line 66 – col. 2, line 5), wherein the first curvature sensor comprises a fiber optic curvature sensor (col. 4, lines 37-39), wherein the attachment fixture comprises a latching mechanism configured for attaching to the first end of the second curvature sensor (col. 2, lines 33-61), the curvature sensor being configured to provide an output of the curvature the portion of the patient (col. 3, line 60

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- col. 4, line 5), a device for generating a patient-based frame of reference for an image guided therapy or image guided surgery system (col.1, lines 20-34) , means for registering a volumetric image of the body to the means for externally measuring the curvature of a body (col. 2, lines 33-52), a tool capable of being coupled to the second end of the second curvature sensor (col. 2, lines 53-61), and wherein the computer is configured to relate the curvature of the first curvature sensor to the location of the fiducials (col. 2, line 62 – col. 3, line 53), and a communication device electronically coupled to the computer and adapted to communicate the output of the computer to a distant receiver (col. 2, line 62 – col. 3, line 53), except for mentioning specifically an imageable fiducials and a sensor providing an output readable by a computer.

However, an imageable fiducials and a sensor providing an output readable by a computer are conventional in the art as evidenced by the teachings of Ferre et al. (US 5,676,673).

The Ferre et al. patent teaches a tracking and imaging system that uses radiopaque fiducial markers (col. 6, line 64 – col. 7, line 18) and a sensor providing an output readable by a computer (see abstract).

Based on the above observations, for a person of ordinary skill in the art, modifying the method disclosed by Vilsmeier et al., with the above discussed enhancements would have been considered obvious because such modifications would have provided a better position monitoring of a medical instrument with respect to a patient's body avoiding misaligned tracking of the device.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John F. Ramirez whose telephone number is (571) 272-8685. The examiner can normally be reached on (Mon-Fri) 7:30 - 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on (571) 272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JFR
12/20/06


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